

[0036] What is claimed is:

1. A method for optimizing end-user service using a Virtual Queuing Support System (VQSS), the method comprising the steps of:

a) detecting a problematic situation associated with a virtual queue from a plurality of virtual queues; and

5 b) taking an action for correcting the problematic situation;

wherein the action comprises at least one of i) reassigning at least one end-user from the virtual queue associated with the problematic situation to another virtual queue from the plurality of virtual queues, and ii) reassigning at least one new service agent from one of the other queues of the plurality of virtual queues to the virtual queue associated
10 with the problematic situation.

2. The method claimed in claim 1, wherein prior to step a), the method comprises the steps of:

c) collecting virtual queue status information related to each virtual queue of the plurality of virtual queues, and agent status information; and

5 d) calculating at least one quality parameter associated with each virtual queue of the plurality of virtual queues;

wherein step a) comprising comparing the at least one quality parameter with at least one pre-set threshold.

3. The method claimed in claim 2, wherein the at least one quality parameter comprises an average queue speed of the virtual queue.

4. The method claimed in claim 2, wherein the at least one quality parameter comprises an average expected waiting time related to the last end-user of the virtual queue.
5. The method claimed in claim 2, wherein the virtual queue status information includes a number of registered end-users of a virtual queue.
6. The method claimed in claim 1, wherein step b) comprises the step of:
reassigning at least one end-user of the virtual queue associated with the problematic situation to the front of another virtual queue from the plurality of virtual queues.
7. The method claimed in claim 6, wherein the virtual queue associated with the problematic situation is a priority queue.
8. The method claimed in claim 1, wherein step b) comprises the step of:
e) reassigning at least one new service agent from one of the other queues of the plurality of virtual queues to the virtual queue associated with the problematic situation, and wherein step e) comprises the steps of:
 - 5 e.1) estimating a number of new service agents needed to correct the problematic situation;
 - e.2) retrieving the number of new service agents from their correspondent current service; and
 - e.3) reassigning the number of new service agents to the virtual queue associated with the problematic situation.

9. The method claimed in claim 8, wherein step e.1) comprises the step of estimating the number of new service agents needed to correct the problematic situation within a given period of time.
10. A Virtual Queuing Support System (VQSS) for optimizing end-user service, the VQSS comprising:
- a memory for storing a plurality of virtual queues; and
 - a processor acting to detect a problematic situation associated with a virtual queue
- 5 from a plurality of virtual queues and acting to take an action for correcting the problematic situation;
- wherein the action taken by the processor comprises at least one of i) reassigning at least one end-user from the virtual queue associated with the problematic situation to another virtual queue from the plurality of virtual queues, and ii) reassigning at least one
- 10 new service agent from one of the other queues of the plurality of virtual queues to the virtual queue associated with the problematic situation.
11. The VQSS claimed in claim 10, wherein prior to detecting the problematic situation, the processor collects virtual queue status information related to each virtual queue of the plurality of virtual queues, as well as agent status information, and calculates at least one quality parameter associated with each virtual queue of the plurality of virtual
- 5 queues;
- wherein for detecting the problematic situation, the processor compares the at least one quality parameter with at least one pre-set threshold.
12. The VQSS claimed in claim 11, wherein the at least one quality parameter comprises an average queue speed of the virtual queue.

13. The VQSS claimed in claim 11, wherein the at least one quality parameter comprises an average expected waiting time related to the last end-user of the virtual queue.

14. The VQSS claimed in claim 11, wherein the virtual queue status information includes a number of registered end-users of a virtual queue.

15. The VQSS claimed in claim 10, wherein the action taken by the processor includes reassigning at least one end-user of the virtual queue associated with the problematic situation to the front of another virtual queue from the plurality of virtual queues.

16. The VQSS claimed in claim 15, wherein the virtual queue associated with the problematic situation is a priority queue.

17. The VQSS claimed in claim 10, wherein the processor reassigns at least one new service agent from one of the other queues of the plurality of virtual queues to the virtual queue associated with the problematic situation, and wherein the processor estimates a number of new service agents needed to correct the problematic situation, retrieves the
5 number of new service agents from their correspondent current service, and reassigns the number of new service agents to the virtual queue associated with the problematic situation.

18. The VQSS claimed in claim 17, wherein the processor estimates the number of new service agents needed to correct the problematic situation within a given period of time.